

**Elevated blood pressure and its associated demographic factors among rural school adolescents in Fayoum governorate, Egypt**

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### ABSTRACT

**Background:** Elevated Blood Pressure (EBP) in adolescence may progress to hypertension in adulthood. The aim was to identify the prevalence of EBP among school adolescents and to test the association with certain possible demographic factors. **Methods:** A cross-sectional study was conducted among school adolescents in three villages in Fayoum governorate between October and December 2021. The prevalence of EBP was determined according to the American Academy of Pediatrics guidelines. **Results:** A total of 618 students were included. The mean age was  $14.6 \pm 1.5$  and 58.9% of the children were males. Overweight and obese students were 17.6% and 6.8% respectively. The prevalence of smoking and physically active students represented 15.4% and 13.1%, respectively. The prevalence of EBP and hypertension were 14.7% and 8.6%, respectively. The significant predictors for EBP and hypertension were waist circumference  $\geq 90$ th percentile, overweight and obesity, presence of a family history of hypertension , and increasing age with odds ratios; of 5.3 (1.6-17.1), 9.1 (5.4-15.4), 3.0 (1.7-5.16), 9.0 (5.13-16.0), respectively. **Conclusion:** The study showed an increase in the prevalence of elevated blood pressure among adolescents in Fayoum Governorate and a significant correlation between many factors, especially overweight and obesity, and prehypertension among adolescents. Children with high blood pressure should be encouraged to practice healthy lifestyle changes, such as weight loss, regular and continuous physical

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activity, avoidance of smoking, and a diet rich in fresh fruits, vegetables, and fiber and low in fat, dairy products, and sodium.

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